

## *A Revolutionary Approach – Leica’s New Cost-Effective System 1200*

**The Leica System 1200 is truly a ground-breaking development—a new approach to positioning technology not seen before on the market.**

National Leica dealer CR Kennedy has taken it on a roadshow around the country, and the response from surveyors and contractors, from what we’ve seen, has been ‘Wow!’

### **Identical Platforms for GPS and TPS**

Acknowledging the convergence of TPS and GPS, the solution that Leica’s engineers have come up with (after five years work) is a pair of instruments and supporting software covering both disciplines, where learning how to use one means you’ve learned how to use both.

The simplest illustration of the compatibility between these two instruments is that you can work with the TPS1200 total station on a site, transfer the data-bearing CompactFlash card to the 1200 GPS unit, and simply keep working. The interface is identical—there are no new software routines to call up, nothing at all to do. Just proceed uninterrupted.

Leica have banished the days when there was a total station specialist and a GPS specialist on site, and hardly the twain would meet; or more to the point, be proficient at both.

Compatibility doesn’t stop at the operating system, or the data format. Such simple matters as interchangeable lithium-ion mini batteries (up to 15 hours work) and chargers keep equipment costs down.

### **Built for Survival**

Each unit is extremely compact and light, and built to military standards of ruggedness. Leica don’t want us to say so, nor encourage the practice, but we understand that they dropped a GPS1200 from a four-story building, switched it on, and it went to



***The entry-level version of Leica’s new TPS1200 total station is remarkably inexpensive considering its excellent performance. The operating platform is identical to the GPS1200 (below), so learning the ropes on one means knowing how to operate both.***



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# Leica Geosystems' High-Performing new System 1200, Seamlessly Integrating TPS and GPS

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work normally. Then tossed it into a pond, it floated, fished it out, and again it went straight back to work. As for temperature, well, how does -40 to +65 Celsius sound?

A strong point of the large graphical map-view display common to both instruments is that you can see clearly what you've surveyed and staked out, and what you've yet to do. Zoom in to check for completeness, and omissions discovered only back at the office can be avoided.

The revolutionary attraction of the 1200 total station is, however, its cost. A base model can be acquired for survey work, and if machine control arrives on your agenda at a later date, you're not up for a costly replacement. By upgrading firmware and adding communication, you're straight in to the MC business for a much lower total outlay than with Leica's competitors.

Says Allan Archbold of Leica Geosystems, "TPS1200 has a high standard of optics, speed and on board control to meet the most demanding machine control applications. In the past you had to buy a top-of-the-line EDM, and console your bank manager with an assurance that you could use this very expensive instrument for general survey work."

"The breakthrough with this new model is that you can buy a Camry and get Mercedes performance if and when you need it." Oddly enough, the dollars are not so much different to Allan's example.

## And as a Bonus, Mick Gunter is Thrown In!

Admirers of Mick Gunter's TP Setout and TP Stakeout (and there are many of them) will be pleased to hear that this irrepressible Sydney-sider was put back into harness by Leica as an integral part of a software team in the production of *RoadRunner*, an expanded and enhanced version.

A key feature of the whole 1200 System is that it integrates powerfully with this optional new software suite for staking out and checking alignments from the most simple to the most complex.

## GPS1200 Performs with Unprecedented Accuracy and Speed

This is not just a tale of compatibility. Each of these instruments embodies very significant performance advances. Supporting all formats and communication devices, and able to be used on a pole, in a minipack, on a tripod, on a construction machine or on a survey boat or aircraft, the GPS1200 initialises within seconds and self-checks ambiguity in the background every six seconds.

To acquire all satellites at startup typically takes the basic GPS1200 less than 50 seconds, and the advanced GX1230 RTK version less than 8 seconds. Re-acquisition after temporary interruption will usually take less than a second.

Leica claims excellent sensitivity—the unit acquires more than 99% of all possible observations above 10 degrees elevation.

A QWERTY keyboard and high resolution LCD touch screen offer the option of using either: you can view data and information related to points and objects simply by touching them on the screen. The keyboard is user-configurable, permitting individual operators to store their work preferences.

Forgive the pun, but those who are tracking future GPS developments (the European Galileo system, new American channels, etc.) will be comforted to know that these are catered for.

## TPS1200 (the Total Station) Offers a Wealth of Features

The performance of the TPS1200 family of total stations is brilliant—a range of up to 3km with a single prism at an accuracy of 2mm + 2ppm, and up to 500 metres in pinpoint reflectorless EDM mode. A range of models offers options for specific applications.

Again, a QWERTY keyboard and touch screen on the remote control present the same user friendly and highly intuitive interface as the GPS. The LCD display is the same as on the

total station itself, and—used with a radio modem—the remote can control it from the reflector. And if the pole happens to fall over with the remote attached, well, no problem. They're built tough, with that in mind.

With a Leica feature termed PowerSearch activated, TPS1200 rotates and sends out a vertical laser fan. As soon as the fan strikes a prism, TPS1200 stops rotating, automatic target recognition takes over and fine points—all fully automatically. Obviously this is particularly handy if you're operating the unit remotely from the reflector.

There's no hiding from this persistent sleuth! The motorised version estimates your travel path and searches for you when you emerge from behind trees or a building, for instance.

As Allan Archbold observed—and he has the experience to know—TPS1200 is an advanced performer that's well up to machine guidance demands.

## Back at the Office

Apart from a standard range of application programs residing on the TPS and GPS units, Leica have put a considerable amount of horsepower into the efficient management of data produced by System 1200.

The common operating system that drives the TPS and GPS instruments is harnessed to 'Geo Office', providing what's needed to manage, visualise, process, import and export the data. Says Colin Plumb of CR Kennedy, "Great emphasis has been placed on the flexible manipulation of data.

"Virtually all standard formats of CAD, GIS and mapping software are easily handled or exported. For special applications you can write your own programs, if you wish, in GeoCC++, or we'll organise it for you."

And as we mentioned, Mick Gunter's involvement in the *RoadRunner* suite of software will be of considerable interest. It's good to see Mick's widely acknowledged talents being 'taken to the world' by Leica Geosystems. 